

Claims

What is claimed is

1. A liquid crystal device having liquid crystals between a first substrate and a second substrate that faces the first substrate through a sealing material, in which pixels corresponding to intersections of a plurality of first electrodes on the first substrate and a plurality of second electrodes on the second substrate are turned on or off in accordance with voltages applied to the first electrodes and the second electrodes, the liquid crystal device comprising:

wiring lines, provided on the second substrate, which are connected to the first electrodes on the first substrate and each have a part extending in an area surrounded by inside edges of the sealing material; and

a drive circuit applying a voltage to the first electrodes through the wiring lines such that the effective value of a voltage applied to the liquid crystals at cross sections between one of the wiring lines and first electrodes other than the first electrode connected to the corresponding wiring line among the plurality of first electrodes becomes smaller than the effective value of a voltage applied to the corresponding pixel for turning on the pixel.

2. A liquid crystal device according to Claim 1, wherein at least one of a duty ratio and a bias ratio is determined such that the effective value of the voltage applied to the liquid crystals at the cross sections becomes smaller than the effective value of a voltage applied to the corresponding pixel for turning off the pixel.

3. A liquid crystal device according to Claim 1, wherein the effective value of the voltage applied to the liquid crystals at the cross sections is smaller than the effective value of a voltage applied to the corresponding pixel for turning off the pixel.

4. A liquid crystal device according to Claim 1, wherein the effective value of the voltage applied to the liquid crystals at the cross sections is smaller than an intermediate value between the effective value of the voltage applied to the corresponding pixel for turning on the pixel and the effective value of a voltage applied to the corresponding pixel for turning off the pixel.

5. A liquid crystal device according to Claim 1, the liquid crystal device comprising:

a light-shielding layer provided on one of the first substrate and the second substrate so as to overlay the cross sections between one of the wiring lines and first electrodes other than the first electrode connected to the corresponding wiring line among the plurality of first electrodes.

6. Electronic equipment provided with the liquid crystal device according to Claim 1.

7. A method for driving a liquid crystal device including a first substrate and a second substrate that are opposed to each other through a sealing material, liquid crystals being sandwiched between the first substrate and the second substrate; a plurality of first electrodes provided on the first substrate; a plurality of

second electrodes provided on the second substrate; and wiring lines, provided on the second substrate, which are connected to the first electrodes on the first substrate and each have a part extending in an area surrounded by inside edges of the sealing material, in which pixels corresponding to intersections of the first electrodes and the second electrodes are turned on or off in accordance with voltages applied to the first electrodes and the second electrodes, the method comprising:

applying a voltage to the first electrodes through the wiring lines such that the effective value of a voltage applied to the liquid crystals at cross sections between one of the wiring lines and first electrodes other than the first electrode connected to the corresponding wiring line among the plurality of first electrodes becomes smaller than the effective value of a voltage applied to the corresponding pixel for turning on the pixel.

8. A method for driving a liquid crystal device, according to Claim 7, wherein a voltage is applied to the plurality of first electrodes and the plurality of second electrodes by using at least one of a duty ratio and a bias ratio that are determined such that the effective value of the voltage applied to the liquid crystals at the cross sections becomes smaller than the effective value of a voltage applied to the corresponding pixel for turning off the pixel.

9. A method for driving a liquid crystal device, according to Claim 7, wherein the effective value of the voltage applied to the liquid crystals at the cross sections is smaller than the effective value of a voltage applied to the corresponding pixel for turning off the pixel.

10. A method for driving a liquid crystal device, according to Claim 7, wherein the effective value of the voltage applied to the liquid crystals at the cross sections is smaller than an intermediate value between the effective value of the voltage applied to the corresponding pixel for turning on the pixel and the effective value of a voltage applied to the corresponding pixel for turning off the pixel.

11. A liquid crystal device comprising:

a first substrate;

a second substrate facing the first substrate with liquid crystals therebetween;

a sealing material between the first and second substrates;

a plurality of first electrodes on the first substrate;

a plurality of second electrodes on the second substrate intersecting with the plurality of first electrodes at intersections forming pixels, the pixels being turned on or off in accordance with voltages applied to the first electrodes and the second electrodes;

wiring lines on the second substrate and connected to the first electrodes, each wiring line having a part extending in an area surrounded by inside edges of the sealing material; and

a drive circuit applying a voltage to the first electrodes through the wiring lines;

wherein an effective value of a voltage applied to the liquid crystals at cross sections between one of the wiring lines and first electrodes other than the first electrode connected to the corresponding wiring line among the plurality of first

electrodes is smaller than the effective value of a voltage applied to the corresponding pixel for turning on the pixel.